PATENT MS147164.01/MSFTP128US

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Date:

Himanshu S. Amin

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:			
Applicant(s):	Nagender P. Vedula, *et al.*	Examiner:	Blaine T. Basom
Serial No:	09/662,399	Art Unit:	2173
Filing Date:	September 14, 2000		

Title: FUNCTION OBJECTS

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Dear Sir:

Applicants' representative submits this Reply Brief in response to the Examiner's Answer dated December 28, 2004. A Request for Oral Hearing and a credit card payment form are filed concurrently herewith, wherein the credit card payment form is believed to cover all fees due regarding this document and the Request for Oral Hearing. In the event any additional fees may be due and/or are not covered by the credit card, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1063[MSFTP128US]. 02/22/2005 BBONNER 00000021 09662399

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REMARKS

Claims 1-45 are currently pending and are presently under consideration. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein. In particular, the following comments address deficiencies contended in the Examiner's Answer to applicants' Appeal Brief.

I. Regarding the Rejection of Claims 16, 23, 30, 32-35, 37, 38, 41-43, and 45 Under 35 U.S.C. §102(b)

The Examiner incorrectly maintains the rejection of claims 16, 23, 30, 32-35, 37, 38, 41-43, and 45 under 35 U.S.C. §102(b) as being anticipated by Oppenheim (U.S. 5,734,905). It is respectfully submitted that the assertions brought forth in the Final Office Action and the Examiner's Answer are incorrect in view of at least the reasons set forth below as well as in applicants' Appeal Brief.

The subject invention as recited in independent claims 16, 32, 33, and 41-43 relates to systems and methods that facilitate generating a mapping between two disparate schemas by way of interconnecting nodes of such schemas through a function object. A function object, which includes an input and an output, is utilized to generate the aforementioned mapping. In particular, a source node of a source object can be associated with a target node of a target object by way of the function object. Function objects, as described in the specification, are utilized to abstract the concept of function calls to a level of an object, thereby rendering the function calls as primary citizens of an object-oriented language. Therefore, by ***graphically associating a source object node... with an input of the function object*** and ***graphically associating a target object node... with an output of the function object, a mapping can be created that performs the function according to the source object node and provides an output value associated with the target object node according to the function***.

In contrast, Oppenheim discloses systems and/or methods that enable a user to link applications in a manner that causes data flowing through one object to be automatically routed to another object for further processing. (*See* col. 8, lines 34-36). In an example of the aforementioned linking, Oppenheim discloses that an analog to digital converter object can be linked with a signal processor object, thereby causing an output of the analog to digital converter object to be employed as input to the signal processor object. (*See* col. 8, lines 38-53).

Oppenheim further discloses that a third application object can be linked to the above-mentioned analog to digital converter object and signal processor object, so that output of the signal processor object is utilized as input to the third object (*e.g.*, a filter object). In summary, the analog to digital converter object creates an output that is utilized as input with respect to the signal processor object; the output of the signal processor object is received as input to the filter object, and output of the filter object can be directed towards a different object or stored in a pre-determined location.

The Examiner has taken the position that the signal processor object is a claimed ***function object***, as the Examiner alleges that the signal processor is employed in connection with ***creating a mapping*** between the analog to digital converter object and the filter object. However, as stated in previous correspondence, and reiterated herein, it is abundantly clear that the signal processor object is not utilized to ***create a mapping between a source object... and a target object*** as claimed. As known to those skilled in the art, and illustrated in the specification (*See* Fig. 2), a mapping refers to correspondence of elements in one set (*e.g.*, object or schema) to elements in a different set (*e.g.*, object or schema). Independent claims 1, 16, 32, 42, and 44 have been crafted according to this known meaning of the term ***mapping***, as can be readily determined by noting that these claims include the following limitations (or limitations substantially similar thereto): ***graphically associating an input of a function object with a source object node and graphically associating an output of the function object with a target object node***. Therefore, a ***mapping*** is created by associating elements (*e.g*, source object nodes) within a first set (*e.g.*, a source object) with elements (*e.g.*, target object nodes) in a second set (*e.g.*, a target object) by way of the claimed ***function object.*** The claimed creation of a ***mapping*** (consonant to the known meaning of the term and utilization thereof in the specification) is clearly not disclosed, taught, or suggested by the cited reference.

In the contrary, and as discussed above, Oppenheim teaches that data can be routed between disparate applications (application objects), wherein each application object operates on data that it receives. Particularly, Oppenheim discloses that the purpose of linking the applications is to cause data flowing through an application object to be automatically routed to a different application object, wherein each of the application objects are utilized to process data in a specific manner. (*See* col. 8, lines 34-36). Thus, rather than ***creating a mapping***, the application objects disclosed in Oppenheim simply operate on data *according to how they were*

designed and without regard to *nodes* of disparate application objects. Therefore, the application objects of Oppenheim are not ***function objects*** that are employed to ***create a mapping*** as claimed. Any mapping existent between application objects within Oppenheim is pre-existent and enabled by way of an object transform interface, which includes a list of objects/applications to which an associated transformation script can be applied. Therefore, for instance, if a first object is desirably transformed by a second object, the object interface of either the first or second object is analyzed to determine if such transformation can be undertaken (*e.g.*, a list is reviewed to determine applicability of the requested transformation). A transformation script can then be applied to an object if such script has been pre-defined with respect to the desired transformation. As can be easily discerned from the above, an application program that receives input from a first application program and generates output to be received by a second application program is not a ***mapping*** as such term is known in the art.

To further differentiate the invention as claimed from the teachings of Oppenheim, it is readily apparent that Oppenheim does not disclose, teach, or suggest ***graphically associating a source object node with a an input... of a function object... and graphically associating a target object node with an output... of the function object*** as recited in independent claims 1, 16, 32, 42, and 44. In particular, Oppenheim nowhere discloses any object or schema that is related to nodes, wherein such nodes can be graphically associated with a function object. The Examiner, however, has asserted in the Examiner's Answer that the input and output ports (or junctions) of the application objects can be considered nodes of such application objects. It is submitted herein that the Examiner's interpretation of the term ***node*** is overly broad and inconsistent with the common meaning of the term as well as the meaning of the term as utilized in the specification. (*See Markman v. Westview Instruments*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff'd*, 517 US 370, (1996) (holding that patent office personnel must rely on the applicants' disclosure to properly determine the meaning of terms used in the claims.); *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) (explaining the meaning of words used in a claim is construed "in the context of the specification and drawings."). *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989) (holding patent office personnel are to give claims their broadest reasonable interpretation ***in light of the supporting disclosure***) (Emphasis added). *See also* MPEP §2106 (stating a definition of a term provided by an applicant will control interpretation of the term as it is used in the claim)).

When utilized in a computing environment in general, and a mapping tool in particular, a node is known to refer to a basic unit that is employed in the building of data structures. Upon reviewing Figure 2 together with accompanying text it is readily apparent that applicants utilized the term ***node*** consistently with the meaning commonly given to such term in the art. (*See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 387 (1996), stating that "words will be given their ordinary and accustomed meaning unless it appears that the inventor used them differently."). The Examiner has extended the meaning of such term outside of the ordinary and accustomed meaning to include any peripheral associated with a graphical object (*e.g.*, an input and/or output port). From the foregoing, however, it is apparent that this interpretation is inconsistent with the common meaning of the term (and the utilization of the term in the specification and claims). To even further distinguish the claimed invention from the teachings of Oppenheim, applicants have claimed a function object having an input and an output as well as a source object having a source node and a target object having a target node. Accordingly, as terms utilized in the claims include ***an input***, ***an output***, and ***nodes***, it is clear that applicants intended to provide a different meaning for the term ***nodes*** than the terms ***input*** and ***output***. Therefore, applicants' representative submits that it is improper for the Examiner to equate input ports to nodes, as the claims utilize such terms disparately.

With respect to independent claims 33 and 41, as stated in the Appeal Brief and reiterated herein, Oppenheim does not disclose, teach, or suggest a ***function object*** as claimed, and thus Oppenheim cannot disclose, teach, or suggest method(s) of making a function object. Further regarding claims 33 and 41, as well as independent claims 43 and 45, Oppenheim fails to disclose, teach, or suggest ***an interface component adapted to provide a script component to a compiler in a mapping tool*** as recited in such claims. Rather, any scripts that can operate in connection with transforming an object are pre-existent, and their creation is not disclosed. To further illustrate this discrepancy, Oppenheim nowhere discloses a compiler, much less ***providing a script component to a compiler in a mapping tool***. Further still, as described above, Oppenheim does not disclose, teach, or suggest creating a mapping, and therefore fails to disclose any sort of ***mapping tool***.

As Oppenheim fails to disclose, teach, or suggest ***a mapping, associating a source object node with a target object node, a mapping tool,*** or ***a compiler,*** Oppenheim cannot anticipate independent claims 16, 32, 33, 41-43, and 45 (and all claims dependent therefrom). Therefore, it

is readily apparent that the assertions in the Examiner's Answer are incorrect, and that this rejection should be withdrawn.

II. Regarding the Rejection of Claims 1-15, 17-22, 24-27, and 44 Under 35 U.S.C. §103(a)

The Examiner incorrectly maintains the rejection of claims 1-15, 17-22, 24-27, and 44 under U.S.C. §103(a) as being unpatentable over Oppenheim (U.S. 5,734,905) in view of Microsoft's "Component Object Model" specification. It is respectfully submitted that the assertions brought forth in the Final Office Action and the Examiner's Answer are incorrect in view of at least the reasons set forth below as well as in applicants' Appeal Brief. In particular, Neither Oppenheim nor Microsoft's COM specification alone or in combination disclose, teach, or suggest ***creating a mapping*** by way of ***a function object***, wherein such mapping is created by ***graphically associating an input of the function object with a source object node*** and ***graphically associating an output of the function object with a target object node***. As described above, Oppenheim fails to disclose, teach, or suggest any sort of ***mapping*** and further fails to teach or suggest a ***node*** as the term is known in the art. The COM specification fails to make up for these deficiencies – therefore, this rejection should be withdrawn.

III. Regarding the Rejection of Claims 28, 29, and 31 Under 35 U.S.C. §103(a)

The rejection of claims 28, 29, and 31 have been incorrectly maintained by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Oppenheim in view of Jordan (US 5,778,227). Reversal of this rejection is respectfully requested for at least the following reasons. Jordan fails to make up for the deficiencies of Oppenheim *vis a vis* applicants' claimed invention regarding independent claim 16. In particular, Jordan discloses a system and/or methodology that provides existing applications with additional functionality (*e.g.*, creation and delection of database objects). Like Oppenheim, however, Jordan fails to disclose, teach, or suggest ***creating a mapping*** by way of ***associating an input of the function object with a source object node*** and ***graphically associating an output of the function object with a target object node*** as claimed with respect to independent claim 16. Accordingly, this rejection should be reversed.

IV. Regarding the Rejection of Claims 36, 39, and 40 Under 35 U.S.C. §103(a)

The Examiner incorrectly maintains the rejection of claims 36, 39, and 40 under U.S.C. §103(a) as being unpatentable over Oppenheim (U.S. 5,734,905) in view of Faustini (US 6,496,870). This rejection should be reversed for at least the following reasons as well as reasons set forth in applicants' Appeal Brief. Faustini discloses a visual programming environment for object-oriented programming, and does not disclose, teach, or suggest ***creating a mapping between a source object and a target object*** through utilization of ***a function object*** as claimed. Therefore, Faustini fails to make up for the deficiencies of Oppenheim with respect to independent claim 33, and this rejection should be reversed.

V. **Conclusion**

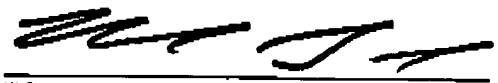
The subject application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

AMIN & TUROCY, LLP



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